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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/439,217	11/12/1999	CHRISTOPHER BURKE BARROSO	2-11-36	1398

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DOCKET ADMINISTRATOR
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EXAMINER

CONTEE, JOY KIMBERLY

ART UNIT	PAPER NUMBER
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2686

DATE MAILED: 04/21/2004

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/439,217

Applicant(s)

BARROSO ET AL.

Examiner

Joy K Contee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,8,10 and 12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,8 and 10 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Response to Arguments

1. Applicant argues that Huston et al., U.S. Patent No. 6,266,008, fails to disclose the claimed "holding information" which indicates when aiding information expires. However, Examiner maintains rejection using Huston and the position that Huston inherently includes in the repeater's unique identification "holding information". Since the base station keeps only a current correction for the limited number of satellites in view, Examiner asserts that inherently this teaching is analogous to the indication that aiding information expires (i.e., is not current) (see col. 6, lines 45-60). Thus the time windows inherently incorporate such "holding information" such that only current data is used (i.e., not expired).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1,2,4-5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malcolm et al. ("Malcolm"), U.S. Patent No. 5,790,939, previously cited, in view of Huston et al., U.S. Patent No. 6,266,008.

Regarding claim 1, Malcolm discloses a method of time calibration comprising the steps of:

determining a calibration time (i.e., reads on timing control derived directly from the satellite's frame reference) using system timing information and embedded satellite timing information (col. 7, lines 66-67 to col. 8, line 5 and col. 10, lines 21-30); and

transmitting to the base station (i.e., reads on gateway earth station (26)) the calibration time and a reference frame identifier (i.e., frame reference), wherein the reference frame identifier specifies a frame boundary (i.e., reads on unique word defining start of frame) of a reference system pulse (i.e., system control subsystem (SCS)) corresponding to the system timing information (col. 10, lines 26-51).

Malcolm does not explicitly disclose either receiving aiding information associated with at least one satellite signal and holding information for indicating when the aiding information expires; or transmitting a time for indicating a time duration wherein an estimated frequency or code phase search range is valid.

In a similar field of endeavor, Huston provides evidence of receiving aiding information (i.e., timing signals from a certain repeater) associated with at least one satellite signal and

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holding information (i.e., inherently included in repeater unique identification) for indicating when the aiding information expires (i.e., allocated time window) (col. 6, lines 20-35 and 46-60).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Malcom to include aiding information such as additional timing signals from a certain repeater for the purpose of updating a location or correcting calibration information.

Regarding claim 2, Malcolm further discloses a method of time calibration comprising the steps of:

receiving at a receiver a message at a base station (i.e., reads on gateway earth station (26)) having a calibration time and a reference frame identifier (i.e., frame reference), wherein the message is received over one or more frames, the reference frame identifier specifying a frame boundary (i.e., reads on unique word defining start of frame) of a reference system pulse, the calibration time being determined using satellite timing information (i.e., payload response channel (PRC)) and the reference system pulse (i.e., SCS) (col. 10, lines 20-51); and

synchronizing the receiver (i.e., of the gateway earth station (26)) to satellite timing using the calibration time, the reference frame identifier and a reference point in a frame specified by the reference frame identifier (col. 10, lines 41-51).

Malcolm fails to explicitly disclose determining a second calibration time at the receiver using a detected satellite signal; and transmitting the second calibration time.

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Huston further discloses determining a second calibration time (i.e., reads on that received from a certain repeater) at the receiver using a detected satellite signal (e.g., GPS signals) (col. 6, lines 46-57); and transmitting (i.e., reads on base station applying the correction upon receipt of the repeater timing signal) the second calibration time (col. 6, lines 48-57) .

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Malcom to include aiding information such as additional timing signals from a certain repeater for the purpose of updating a location or correcting calibration information.

Regarding claim 4, Malcolm discloses the method of claim 1, wherein the step of determining the calibration time comprises the steps of:

detecting at least one satellite signal (PRC) (col. 10, lines 26-30); and

determining the embedded satellite timing using the detected at least one satellite signal (col. 10, lines 26-51).

Regarding claim 5, Malcolm discloses the method of claim 4, comprising the additional step of:

receiving Doppler frequency information associated with the at least one satellite signal being detected prior to the step of detecting the at least one satellite signal (col. 8, lines 54-57).

Regarding claim 8, Malcolm discloses the method of claim 1, comprising the additional step of: transmitting an estimating frequency or code phase search range (col. 8, lines 17-20).

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Malcolm, in view of Noguchi, U.S. Patent No. 4,607,257, previously used in final rejection.

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Regarding claim 3, Malcolm discloses the limitations of claim 1, comprising the additional step of. Malcolm does not specifically disclose: receiving a request to perform timing calibration prior to the step of determine the calibration time.

In a similar field of endeavor, Noguchi discloses receiving a request to perform timing calibration prior to the step of determine the calibration time. (col. 7, lines 67-68 to col. 8, line 2).

At the time of the invention it would have been obvious to one of ordinary skill in the art to have modified Malcolm to include a time calibration command sent from the earth station for the purpose of letting the satellite know when it is time for synchronization.

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Malcolm and Huston, in view of, Abraham et al., (hereafter "Abraham") U.S. Patent NO. 5,510,797.

Regarding claim 10, Malcolm and Huston disclose the limitation of claim 2. Noguchi fails to explicitly disclose, wherein the step of receiving at the receiver the message having the calibration time and the reference frame identifier comprises: time stamping the message to indicate a time at which the message was received by the receiver.

In a similar field of endeavor, Abraham is evidence of a user time stamping a calibrated signal such that the recipient will know if the message is current or old (col. 6, lines 53-67.

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At the time of the invention it would have been obvious to one of ordinary skill in the art to have modified Malcolm to include a time stamp on the calibration message for the purpose of identifying the relevancy of the calibration message, i.e., current or old..

Allowable Subject Matter

6. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: Prior art of record fails to explicitly disclose the details of the claim as described.

Conclusion

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing

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date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joy K. Contee whose telephone number is (703) 308-0149. The Examiner can normally be reached between 5:30 a.m. and 2:00 p.m., alternating Mondays, Tuesdays and Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold, can be reached on (703)305-4379.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Customer Service whose telephone number is (703)306-0377

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for formal communications intended for entry or for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).
Joy K. Contee

April 15, 2004

Marsha D Banks-Harold

MARSHA D. BANKS-HAROLD
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